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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,673

10/25/2005

Ryo Matsushashi

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EXAMINER

ROST, ANDREW J

ART UNIT

PAPER NUMBER

3753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/519,673

Applicant(s)

MATSUHASHI ET AL.

Examiner

Andrew J. Rost

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/11/05, 4/28/05, 1/6/05</u>                                  | 6) <input type="checkbox"/> Other: ____                           |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation of "or like fluid handling part" in line 1. It is vague as to what is considered a "like fluid handling part"

Claim 1 recites the limitation of "up to 100 ppm of S, up to 50 ppm of O" in lines 10-11. It is unclear as to how recitations of "up to 100 ppm of S" and "up to 50 ppm of O" are a "% by weight" as recited in line 9. Therefore, it is unclear as to the amount of sulfur and oxygen in "% by weight" as claimed in claim 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (5,586,745) in view of Ueda et al. (4,883,544).

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Regarding claims 1 and 3, Knapp discloses a valve assembly having a housing (36), an inlet, an outlet, a communication channel, and a needle (18) being fixed to a disc (10) with the disc being attached to a valve stem (20) with the valve stem having threads (22) and a handle (37). Knapp does not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used having a CRI value in the range of  $40 \leq \text{CRI} \leq 55$  (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the needle valve of Knapp with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to 2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

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5. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoobyar et al. (5,152,500) in view of Ueda et al. (4,883,544).

Regarding claims 1 and 4, Hoobyar et al. disclose a valve assembly having an inlet (23), an outlet (27), a communication channel, a diaphragm (66) and uses a stainless steel of the metal parts (valve 11 and 12) and has implantable silicone for the diaphragm (66) (col. 5, lines 16-20). Hoobyar et al. do not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used having a CRI value in the range of  $40 \leq \text{CRI} \leq 55$  (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the diaphragm valve of Hoobyar et al. with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to

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2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

6. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meli (6,039,361) in view of Ueda et al. (4,883,544).

Regarding claims 1 and 5, Meli discloses a pipe coupling that is assembled by tightening a cap nut (36) on an externally threaded portion (32) of a coupling member (20) with all of the components being made of metal with the exception of the O-ring (col. 3, lines 25-31). Meli does not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used having a CRI value in the range of  $40 \leq \text{CRI} \leq 55$  (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the coupling of Meli with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to 2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schieber (5,909,747) discloses a diaphragm valve having a non-metallic diaphragm. Sato et al. (5,110,544) disclose a stainless steel composition with excellent anticorrosion properties. Azuma et al. (5,833,408) disclose the composition for austenitic stainless steel (ranges listed in col. 3, lines 41-52).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, *AKR 1/11/07*



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